REMARKS

This amendment is responsive to the Office Action dated June 4, 2008. Claims 1-18 have not been amended and remain pending in the application. Reconsideration and allowance of the pending claims is respectfully requested.

Claims 1, 3-4, and 11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Pat. No. 4,913,525 to Asakura et al. ("Asakura") in view of U.S. Pat. No. 6,488,419 to Kato et al. ("Kato"). This rejection is traversed.

Claim 1 recites: *[a]n external cavity type semiconductor laser, comprising:*

a semiconductor laser device having a plurality of layers including an activation layer;

a window glass disposed opposite to a beam emission surface of the semiconductor laser device;

a grating that receives a beam emitted from the semiconductor laser device through the window glass and returns a beam having a predetermined wavelength to the semiconductor laser device; and

a lens disposed between the semiconductor laser device and the grating and which collects the beam emitted from the semiconductor laser device,

wherein the window glass is arranged in a first state or a second state,

wherein in the first state the window glass is nearly in parallel with a first axis and is not in parallel with a second axis,

wherein in the second state the window glass is not in parallel with the first axis, the window glass being nearly in parallel with the second axis, and

wherein the first axis is nearly perpendicular to a surface that is in parallel with at least one of the boundary surfaces of the activation layer and other layers of the semiconductor laser device, and the second axis is nearly in parallel with the beam emission surface of the semiconductor laser device and nearly perpendicular to the first axis.

Asakura and Kato, either alone or in any permissible combination, fail to teach, disclose, or suggest the features of Applicant's claimed invention as recited in independent claim 1.

Asakura discloses a frequency stabilized light source including a semiconductor laser chip, a lens, a finite Fourier diffraction grating and an anti-reflection coating. (Asakura, col. 3, lines 4-6.) A light beam coming out of one facet of the semiconductor laser chip is collimated by the lens, and is incident on the Fourier grating. (Asakura, col. 3, lines 6-9.) The incident light is dispersed depending on its wavelengths, and the light with a specific wavelength determined from the angle of the grating is fed back to the active layer of the semiconductor laser chip. (Asakura, col. 3, lines 9-13.) The semiconductor laser chip oscillates stably at the wavelength of the feedback light, and emits a frequency stabilized output light from the other facet thereof. (Asakura, col. 3, lines 13-16.) The output light from the semiconductor laser chip has its wavelength varied by the rotation of the grating. (Asakura, col. 3, lines 16-19.)

As the Office Action makes clear, Asakura fails to disclose or suggest "*a window glass disposed opposite to a beam emission surface of the semiconductor laser device; a grating that receives a beam emitted from the semiconductor laser device through the window glass and returns a beam having a predetermined wavelength to the semiconductor laser device; and ... wherein the window glass is arranged in a first state or a second state, wherein in the first state the window glass is nearly in parallel with a first axis and is not in parallel with a second axis, wherein in the second state the window glass is not in parallel with the first axis, the window glass being nearly in parallel with the second axis, and wherein the first axis is nearly perpendicular to a surface that is in parallel with at least one of the boundary surfaces of the activation layer and other layers of the semiconductor laser device, and the second axis is nearly in parallel with the beam emission surface of the semiconductor laser device and nearly perpendicular to the first axis.*"

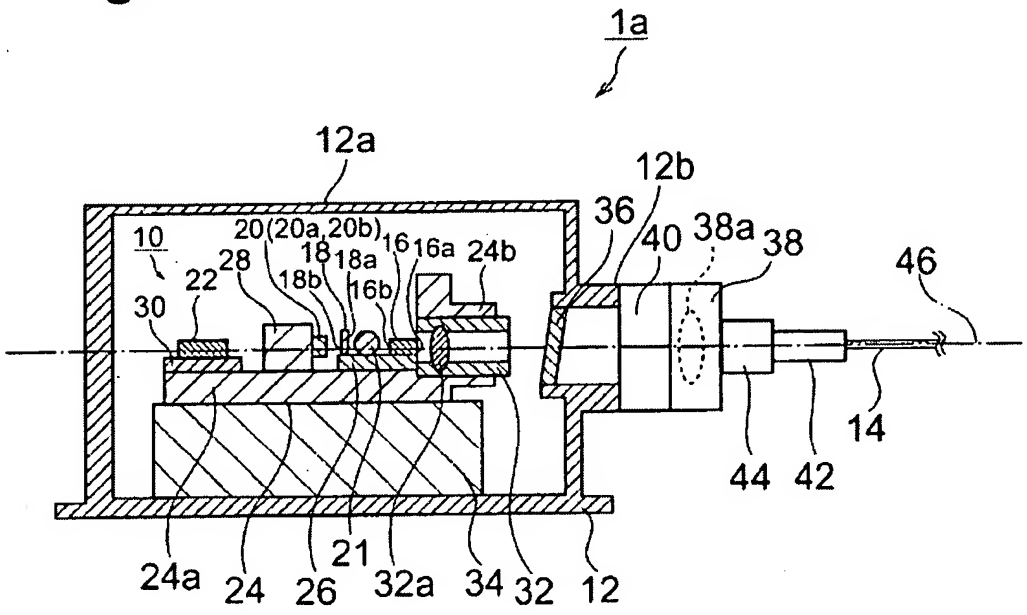
Kato fails to cure the deficiencies of Asakura. Specifically, Kato fails to teach, disclose, or suggest "*a window glass disposed opposite to a beam emission surface of the semiconductor laser device; a grating that receives a beam emitted from the semiconductor laser device through the window glass and returns a beam having a predetermined wavelength to the semiconductor laser device*[.]"

Kato discloses a light emitting module capable of adjusting the wavelength of light generated under operating conditions. (Kato, Abstract.) The light emitting module includes a

semiconductor light emitting device 16, photodetectors 20a, 20b, and an etalon 18. (Kato, Abstract.) The semiconductor 16 has a light emitting surface 16a, a light reflecting surface 16b, and an active layer. (Kato, col. 16, lines 13-19.) The active layer is arranged between the light reflecting surface 16b and the light emitting surface 16a. (Kato, col. 8, lines 36-39.)

Photodetectors 20a, 20b are located so as to receive transmitted light from the first end face, light reflecting surface 16b of the semiconductor light emitting device. (Kato, Abstract.) The etalon 18 is located between the first end face 16b and the photodetector 20a, 20b. (Kato, Abstract.)

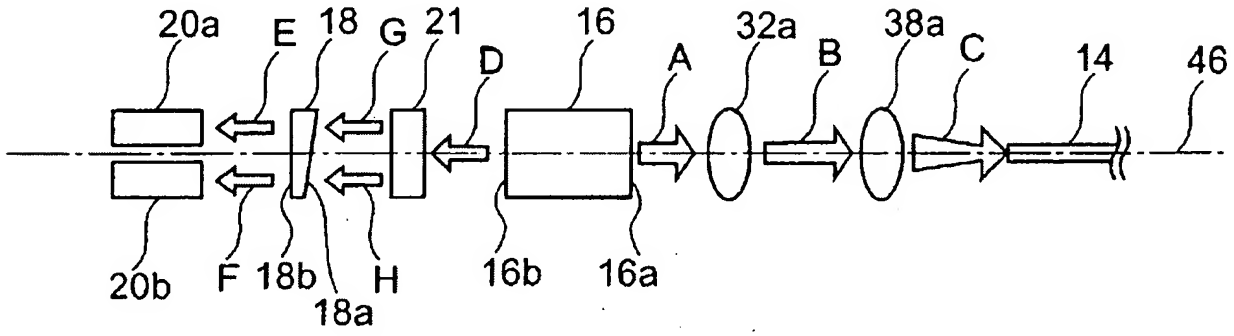
Fig.2



Kato discloses that "the optical fiber 14, lenses 32a, 38a, semiconductor laser 16, etalon 18, and photodetectors 20a, 20b are arranged in a direction of a predetermined axis 46 in the semiconductor laser module 1a." (Kato, col. 15, lines 55-59.) The "semiconductor laser module 1a utilizes the output light from the back face of the semiconductor laser 16." (Kato, col. 15, lines 59-60.) "This output light is spectroscopically split by use of the etalon 18 to obtain a plurality of monitor light including respective wavelength components having a predetermined wavelength spacing in the wavelength spectrum of the semiconductor laser 16." (Kato, col. 15, lines 60-65.)

Figure 12A, reproduced below, is used by Kato to describe the propagation of light in the semiconductor laser module 1a. (Kato, col. 16, lines 6-8.)

Fig.12A



Kato discloses:

> "12A is a schematic view showing the propagation of light in the semiconductor laser module 1a. The optical fiber 14, lens 38a, lens 32a, semiconductor laser 16, etalon 18, optical waveguide circuit 21, and photodetectors 20a, 20b are arranged in turn in a direction of the predetermined axis 46. The light A emits from the light emitting surface 16a of the semiconductor laser 16 and then is converged through the lens 32a toward the lens 38a to form light B. Further, the light B is converged by the lens 38a so as to enter the end face of the optical fiber 14 to form light C. On the other hand, the light D emits the light reflecting surface 16b of the semiconductor laser 16 and is split into light G and light H in the light collimating means 21 such as an optical waveguide circuit and thereafter the light G and H are incident to the input surface 18a of the etalon 18." (Kato, col. 16, lines 8-22.)

The only description Kato makes concerning the hermetic glass 36 shown in Kato Figure 2 above is: "A wall surface of the package main body 12a has an optical window sealed by hermetic glass 36, in its portion communicating with the cylindrical portion 12b." The hermetic glass 36, as disclosed by Kato, would thus be positioned between lens 32a and lens 38a in Kato Figure 12A, and only light B passes through the hermetic glass 36. Kato makes no mention of a grating receiving light after it passes through the hermetic glass 36. Furthermore, Kato also makes no mention of light returning to the semiconductor after passing through the hermetic glass 36, let alone returning with a predetermined wavelength after being received by the grating.

Therefore, Kato clearly fails to teach, disclose, or suggest "*a window glass disposed opposite to a beam emission surface of the semiconductor laser device; a grating that receives a beam emitted from the semiconductor laser device* ***through*** *the window glass and* ***returns*** *a beam having a predetermined wavelength to the semiconductor laser device;*" as recited in independent claim 1.

Because even the combination of Asakura and Kato would still fail to yield the features of Applicant's claimed invention, a prima facie case of obviousness has not been presented for independent claim 1. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974) (To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art.); *see also* MPEP 2143.03.

Claims 3, 4 and 11 depend from claim 1 and thus incorporate the distinct features recited therein, as well as their separately recited, patentably distinct features.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 1, 3-4, and 11 under 35 U.S.C. § 103(a) as being unpatentable over Asakura in view of Kato.

Claims 2 and 7 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Asakura in view of Kato, and further in view of U.S. Pat. No. 5,870,417 to Verdiell et al. ("Verdiell"). This rejection is traversed.

Claims 2 and 7 depend from claim 1 and thus incorporate the features recited therein. As described above, Asakura and Kato fail to disclose these claimed features. Verdiell discloses a thermal compensator for waveguide DBR sources, and is introduced as purportedly disclosing an angle between the surface of the window glass and the second axis in the range of 5-12 degrees. Even assuming for the sake of argument that these features might be disclosed, there is no disclosure or suggestion of the above-described features regarding claim 1, so the three way combination of references would fail to yield what is claimed therein.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 2 and 7 under 35 U.S.C. § 103(a) as being unpatentable over Asakura in view of Kato, and further in view of Verdiell.

Claims 5, 6 and 12 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Asakura in view of Kato, and further in view of Mizuno et al., "100mW Kink-free Blue-violet Laser Diodes with Low Aspect Ratio," Proceedings of the 11th Sony Research Forum, 2001 ("Mizuno"). This rejection is traversed.

Claims 5, 6 and 12 depend directly or indirectly from independent claim 1, and thus incorporate the features recited therein. Asakura and Kato fail to disclose such features as described above. Mizuno is introduced as disclosing a blue laser diode and certain power features, but Mizuno does not address the above-described features of claim 1.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 5, 6, and 12 under 35 U.S.C. § 103(a) as being unpatentable over Asakura in view of Kato, and further in view of Mizuon.

Claims 8-10 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Asakura in view of Kato, and further in view of U.S. Pat. No. 7,027,469 to Sidorin ("Sidorin"). This rejection is traversed.

Claims 8-10 depend from claim 1 and thus incorporate the features recited therein. As described above, Asakura and Kato fail to disclose these claimed features. Sidorin is introduced for purported disclosures of the additional features recited in claims 8 and 10 regarding cavity length, but does not address and offers no remedy to the deficiencies of Asakura and Kato. Thus even the combination of Asakura, Kato and Sidorin would still fail to yield the fatures of Applicant's claim 1, let alone dependent claims 8-10.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 8-10 under 35 U.S.C. § 103(a) as being unpatentable over Asakura in view of Kato, and further in view of Sidorin.

Claims 13-18 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Asakura in view of Kato, Mizuno, Verdiell and Sidorin. This rejection is traversed.

For reasons similar to those provided regarding claim 1 above, claim 13 is neither disclosed nor suggested by Asakura in view of Kato. Nor do the references to Mizuno, Verdiell, and Sidorin remedy the deficiencies of the first two references. Accordingly, a prima facie case of obviousness has not been presented regarding claim 13. Claims 14-18 depend from claim 13 and thus incorporate the features recited therein. These claims are thus also distinct for their incorporation of the features in the independent claim as well as for their separately recited patentably distinct features.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 13-18 under 35 U.S.C. § 103(a) as being unpatentable over Asakura in view of Kato, Mizuno, Verdiell and Sidorin.

CONCLUSION

In view of the foregoing arguments, all claims are believed to be in condition for allowance. If any further issues remain, the Examiner is invited to telephone the undersigned to resolve them.

This response is believed to be a complete response to the Office Action. However, Applicant reserve the right to set forth further arguments supporting the patentability of their claims, including the separate patentability of the dependent claims not explicitly addressed herein, in future papers. Further, for any instances in which the Examiner took Official Notice in the Office Action, Applicant expressly do not acquiesce to the taking of Official Notice, and respectfully request that the Examiner provide an affidavit to support the Official Notice taken in the next Office Action, as required by 37 C.F.R. § 1.104(d)(2) and MPEP § 2144.03.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 18-0013, under Order No. SON-3163 from which the undersigned is authorized to draw.

Dated: July 29, 2008

Respectfully submitted,

By _____

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